

**ABSTRACT**

In order to obtain actuator elements capable of being displaced such as expansion and contract or bending for practical use even when used as actuator elements with larger size, stacked layers or bundles in which  
5 conductive polymer-containing layers or fiber-like tubes are provided with conductive polymer composite structures which include conductive substrates and conductive polymers, said conductive substrates have deformation property, and conductivity of said conductive substrates is not less than  $1.0 \times 10^3$  S/cm are used.